

# The Watershed Partnership, Inc.

February 15, 2016

## **Re: HB-5139 AN ACT CONCERNING THE USE OF RECYCLED TIRE RUBBER AT MUNICIPAL AND PUBLIC SCHOOL PLAYGROUNDS.**

Honorable Members of the Children's Committee:

My name is Jerry Silbert. I am a physician trained in human pathology and laboratory medicine. Pathology is the study of the cause and effect of human disease and laboratory medicine involves the study of analytic chemistry, microbiology, and immunology. I am now the Executive Director of the Watershed Partnership, a nonprofit environmental organization. The Watershed Partnership works on issues related to children being exposed to toxic chemicals on school grounds.

As you may know a number of years ago soccer coach Amy Griffin in the state of Washington, noticed an unusual and alarming number of soccer goalies that had been diagnosed with leukemia or lymphoma. She began to informally collect data on cancers in players on artificial turf. As of January 2016 Griffin has collected data on 203 athletes who have played on artificial turf and have been diagnosed with cancer. **OF THESE 203, THERE WERE 159 CANCERS AMONG SOCCER PLAYERS AND 97, (61%) OF THEM WERE GOALIES!** Goalies are heavily exposed to the tire rubber infill in artificial turf. This is because they are diving into the turf both during games and particularly during practice. So the preponderance of leukemia and lymphoma in soccer goalies is certainly a cause for concern and needs to be carefully followed up.

As you probably already know, young children are particularly susceptible to environmental toxins. They breathe more air, drink more water, and eat more food per pound of body weight than an adult. Also, their ability to detoxify chemicals is not fully developed.

Recycled tire rubber contains a mixture of many toxic chemicals. A recent analysis of a variety of recycled tire rubber by Dr. Gaboury Benoit, Professor of Environmental Chemistry, Professor of Environmental Engineering, at the Yale School of Forestry and Environmental Studies, found 96 different chemical compounds in the tire rubber. This included 12 carcinogens and 20 irritants. **It is important to note that 40% of the chemicals found had virtually no toxicity testing at all!**

It is only common sense to know that recycled tire rubber is not a material on which children should be playing. I strongly recommend that recycled tire rubber be banned from municipal and public school playgrounds. I would also strongly suggest that this include private schools and day care centers as well.

Further, if we are really serious about protecting children from exposure to recycled tire rubber, the law should require that it be REMOVED from playgrounds that are now covered with recycled tire rubber. There is a school in my town of Guilford that has been covered with recycled tire rubber for seven years! This material lasts a very long time.

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You will probably hear from opponents of this bill that though recycled tire rubber contains many harmful chemicals, the exposure to these chemicals is minimal and within “safe” limits. Let me address these claims:

- 1) When 40%, (or for that matter any percent) of chemicals found in the recycled tire rubber have little or no toxicity testing how can one possibly claim that exposure to the chemicals in the rubber is within safe limits
- 2) Further, the studies thus far on exposure to the known toxic chemicals and carcinogens in the crumb rubber are totally inadequate to conclude that the crumb rubber is safe to play on. Here’s why:

The exposure studies look at the amount of chemical toxins that can be released from the crumb rubber. The investigators then make assumptions about how much of the chemical can get into a player’s body. The investigators assume that the techniques they use to simulate actual field conditions are the way that the chemicals get into the body. These assumptions are probably wrong. This is particularly true of the Connecticut Department of Health (DPH) study that looked ONLY at volatile chemicals and simulated play by having subjects run back and forth on the fields with canisters tied to their waist collecting air samples. The subjects were not diving into the artificial turf, sliding, or lying on the artificial turf in close contact with the infill. Also the DPH did not study the possibility of particulate matter being inhaled or ingested.

Further, the assumed exposure is then compared to a level that is considered to be “safe.” Not only are these levels usually calculated on the basis of the average 150 lb adult, they are “safe” only with respect to the INDIVIDUAL chemical studied and not to the many chemicals that players are exposed to all at once. It is well known that exposure to many toxic chemicals simultaneously can be more toxic than exposure to any single toxin individually.

It is also well known that individuals vary in the susceptibility to environmental toxins. For example, consider the many different side effects people can have to various chemotherapeutic drugs for cancer. Yet these “safe” levels in tire rubber are based on the “average” human being. The average human being is actually a myth because no two people are alike.

- 3) More conclusive studies would involve epidemiologic research, and perhaps laboratory studies of players on artificial turf compared to players who play on natural grass to see what toxic compounds in tire crumb rubber are actually getting into the bodies of the players on artificial turf.

- 4) In light of the fact that thousands of children are being involuntarily exposed on playgrounds to recycled tire rubber that indisputably contains irritants and known cancer causing chemicals, and the fact that there are reasonable grounds for concern due to the inadequacy of current studies, the precautionary principle should be followed: ***When there are reasonable grounds for concern, the precautionary approach to decision-making is meant to help reduce harm by triggering a process to select the least potential threat.***
- 5) If future research demonstrates that tire crumb rubber IS a health risk, the consequences could be quite costly in legal fees, not to speak of the cost in human suffering.

Respectfully,

***Jerry Silbert, M.D.***

Executive Director

**The Watershed Partnership, Inc.**